

United States Patent Application

of

Eugene T. Butchma

for

Binder Apparatus

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## BACKGROUND OF THE INVENTION

### Field of the Invention

The present invention relates to binder systems for containing papers, documents, media, or other items in removable relation to each other. More specifically, the present invention relates to an arrangement of binders within a notebook-style cover which results in an efficient use of space, materials, and an increased storage capacity, in both the binder and the binder storage location.

### Description of the Related Art

Binders are well known devices for keeping various types of documents together. The most commonly used version, as seen in Figure 1, is a three ring notebook binder 10. In its most traditional embodiment, a cover 11 is provided having a first cover portion 12, a cover spine portion 13, and a second cover portion 14. The first and second cover portions 12 and 14, and the cover spine portion 13 are usually a rigid material (e.g. cardboard, plastic, or the like) and occasionally fabric covered or covered with other decorative means including padding. The first cover portion 12 and the cover spine 13 are connected by a first flexible hinge 15, and the cover spine and the second cover portion 14 are likewise connected by a second flexible hinge 16.

This enables the covers 12 and 14 to flex about the hinges 15 and 16 and be closed into a traditional book-style notebook.

Retaining the contents of the notebook is a three-ring binder 17 which is formed by a spine 18 (usually metal) having a plurality of split rings 19 which are openable and closable manually or via action of lever 20. In some embodiments, the split rings 19 are biased closed via a spring mechanism (not shown).

Various embodiments of the rings and binder are known. While three is the traditional number of split rings in a binder, more, or less are also known (e.g. US 5,042,841). Different shaped rings, e.g. a "D" shaped ring are known (e.g. US Patent 6,045,286; US 5,332,327) and different designs for the rings are known (e.g. D408,851).

Rings which slide within each other are known (US 4,765,768), as are wrap-around covers (US 4,139,216).

A plurality of covers with living hinges are also known (e.g. US Patent 6,030,140) and a flexible spine portion is disclosed in US 5,607,246.. Various means for attaching the binder mechanism to the cover are known (e.g US Patents 6,019,538; 5,964,544; 5,882,135).

Mounting the ring binder on the rear cover is likewise known (US 5,651,628; US 5,607,246; US 5,332,327), or about a hinge to serve as an opening-closing mechanism

(US5,028,159); as are different types of covers, such as a thermoplastic cover with grooves delineating a spine portion (US 5,620,207). A notebook which can act as a display stand is shown in US 5,332,327 and in US 4,335,821.

An expandable, double ring binder is disclosed in US 4,990,017, where the rings are mounted on the same cover spine portion.

While each of these patents illustrates a unique method for adapting a binder-type device to a particular use or convenience, none addresses the constant dilemma of preventing the waste of scarce shelf space and creating a stable, uniform binder apparatus which is attractive and functional. A solution to this problem is needed.

#### SUMMARY OF THE INVENTION

An object of the present invention is to provide a binder arrangement which is attractive and functional.

It is a further object of the present invention to provide a binder arrangement which results in the maximum efficiency in space utilization for the binder.

It is yet another object of the present invention to provide a binder arrangement with a plurality of binders in opposing relation to each other.

It is an additional object of the present invention to provide a binder which, when closed, presents an essentially parallel cover arrangement over any level of fill.

It is yet an additional object of the present invention to provide a binder arrangement, which, when placed in relation with other such binders, efficiently utilizes the space on a shelf or other storage area.

It is a further object of the present invention to provide a binder arrangement which is stackable in the vertical direction with other such binders in a stable and essentially upright manner.

It is yet an additional object of the present invention to provide for the storage of materials in a binder while providing a savings of materials while constructing the binder.

Other objects, features, and characteristics of the present invention as well as the methods of use of related elements will become more apparent upon consideration of the following description and the appended claims with reference to the accompanying drawings, wherein like reference numbers designate corresponding elements in the various figures.

## BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the known prior art three-ring binder.

Figure 1A is a top elevation view of the binder shown in Figure 1.

Figure 2 is a perspective view of a preferred embodiment of the present invention.

Figures 3 and 3A are perspective views of other preferred embodiments of the present invention.

Figure 3B is a top elevation view of the binder shown in Figure 3A.

Figure 4 is a top elevation view of the embodiment of FIG. 3 illustrating the binder when filled with loose-leaf paper.

Figure 5 is a top elevation view of an alternate embodiment illustrating a D-Ring style binder with the binder mechanisms mounted upon the cover portions.

Figure 6 is a top elevation view of a still further embodiment of the present invention.

Figure 7 is a perspective view of another further embodiment of the present invention.

Figure 8 is a top elevation view of the binder shown in Figure 7.

Figure 9A and 9B are top elevation views of other further embodiments of the present invention.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

As shown in Figure 2, a preferred embodiment of a device according to the instant invention is designated generally by the reference numeral 21. The preferred embodiment includes three cover panels (first cover panel 22, central cover panel 23, and second cover panel 24) and two spine panels (25, 26), connected by four flexible hinges (27, 28, 29, 30). Each panel 22-26, or cover, has a top edge or side, a bottom edge or side, a first side edge, and a second side edge.

Affixed to each spine panel (25 and 26) is a binder device (31, 32) for releasably engaging articles to be held within the binder. Such articles may be paper (e.g. 8.5 X 11 inch paper punched with appropriate holes), or other articles which are desired to be retained in sequential alignment, such as photograph album pages, compact disc carrier pages, trial exhibits, etc.

In its presently preferred embodiment the binder 21 comprises a standard three ring binder with split-rings which are openable and closable. In the embodiment of Figure 2, the ring binders 31 and 32 are centrally disposed on each of the spine panels 25 and 26 and the central cover panel 23 is slightly wider (in the direction between the spines) than the documents, papers,

or other media to be contained within the binder 21. Thus, the various papers or other items contained in the binder apparatus 21 may lie against each other in a space-saving relationship.

In a particularly preferred embodiment, the binder mechanisms are mounted to one side of the spine panels, which are oversized as regards the binder mechanism. With reference to Figures 3 and 3A, it may be seen that spine panel 33 and 33' and spine panel 34 and 34' have the binder mechanisms 35 and 35' and 36 and 36' offset. Thus, when the binder is completely full and closed on both sides, the space-saving arrangement is clearly visible as seen in Figures 3B and 4 (corresponding to 3A and 2 respectively).

In Figure 4, first cover panel 41 acts as an external cover panel, first spine panel 42 has affixed in a lower position first binder mechanism 43 which is shown containing loose-leaf paper 44. First cover panel 41 is hingeably connected to first spine panel 42 via a flexible hinge member 45, such as a flexible plastic hinge, or a cloth binding element. First spine panel 42 is likewise hingeably connected to central cover panel 46 by a flexible hinge member 47. Central cover panel 46 is hingeably connected to second spine member 48 by flexible hinge member 49. Second spine member 48 has affixed to it in an upper position second binder mechanism 50, shown with loose leaf paper 51. Second spine member 48 is shown in this embodiment



hingeably connected to second cover panel 53 by flexible hinge element 52. As illustrated in Figure 3A, a second cover panel 53 in Figure 4 is not absolutely necessary.

In an alternative embodiment, the rings may be mounted upon the various cover panels using specially shaped rings. Turning to Figure 5, such an arrangement is contemplated. First D-Ring binder mechanism 55 is mounted upon first cover panel 54. The first D-Ring binder 55 contains loose-leaf style paper 56, and is located in a lower position when considering the binder 55 overall in the orientation displayed in figure 5. A second D-ring binder 57 is mounted upon central cover panel 58 and contains loose-leaf paper 59. The outer cover is constructed in a conventional manner, with the first cover panel 54 being hingeably connected to first spine panel 60, and first spine panel 60 being hingeably connected to central cover panel 58, and central cover panel 58 being optionally connected to second spine panel 61.

The materials for use in a binder arrangement according to the present invention may be selected from various conventionally used materials. If a hard binder is desired, suitable materials include a rigid board covered with a fabric, or a heavy gauge cardboard, plastics, or other suitable material with sufficient rigidity. A decorative cover, e.g. a layer of polypropylene imprinted with a design or a vinyl cover may also be used. Flexible covers, e.g. lightweight plastic such as vinyl, polyvinyl chloride or polypropylene may be used.

The binder mechanism as used in the present invention may be any of various conventional mechanisms. A traditional three-ring snap binder may be used, or binders which slide, screw, or lever open or closed may be used. More or fewer rings may be used, but it is preferred that at least two rings are used, although in certain applications a single holding device may be used. Clamps, clips, and other mechanisms for holding materials within the binder may be used.

The physical arrangement of the binder in the cover gives the inventive binder significantly improved properties over traditional binders, which, when closed, waste a significant amount of shelf space by virtue of excess spine space. In an embodiment of the invention, opposing binder rings help more efficiently utilize the space both within the binder space (from spine-to-spine) and longitudinally along the shelf space within which the binder may rest in association with other binders.

A particularly preferred binder which saves space and yields a very flexible format for presentation and organization is seen in Figure 6. Three different binder mechanisms 62, 63, and 64 are mounted in opposed configuration to provide an attractive and functional binder apparatus. The relative size of the rings may be adjusted to provide for one large binder in the

middle (e.g. 63, while the other two binders may be smaller (62, 64) to result in the same end result- an essentially parallel pair of outer covers.

In Figure 7, another alternate embodiment is seen. Notebook 65 is seen with a first cover portion 66 hingeably connected by a first hinge 67 to a first spine portion 68. Attached to the first spine portion 68 is a first binder 69. The first binder 69 is approximately parallel to the first hinge 67 and positioned closer to (proximate or proximal to) the first hinge 67 than the second hinge 70. This leaves an unoccupied space 71 on the first spine portion 6. Shown in phantom in this region are media (e.g. loose leaf paper or other media which could be held in first binder 69.

Second cover portion 72 is hingeably connected by third hinge 70 to first spine portion 68. Second cover portion 72 is, on an opposing side from second hinge 70, hingeably connected by third hinge 73 to second spine portion 74. Affixed to second spine portion 74 is second binder 75, located closer to third hinge 73 than to fourth hinge 76, which hingeably connects to third cover portion 77. Affixed to both third cover portion 77 and first cover portion 66 are additional fasteners 78 and 79, respectively. These fasteners 78-79 may be spring-loaded clips, adhesive fasteners, or any other suitable fasteners known in the art.

When the embodiment in Figure 7 is in the open position, it provides a readily accessible multiple binder notebook with access to 4 different media displays, for example, a scratch pad

may be affixed under additional fastener 79 for taking notes during a trial or deposition, exhibits from one side may be fastened within binder 69, exhibits from another side be fastened within binder 75, and additional notes or other documents be held in fastener 78. Pockets 81, 82, and 83 may be provided in any manner known in the art, e.g. heat welding a vinyl pocket in place or by other means of affixation.

When the embodiment of Figure 7 is in the closed position, the loose leaf media may be folded on top of each other, and the covers sequentially closed, to result in the tidy, organized, and secure binder seen in Figure 8. As may be seen, the loose leaf media 84 and 85 are aligned in contiguous planes which provide for an effective and space saving storage of material. The alignment of media in contiguous planes is also evident in embodiments displayed in earlier figures. Still further embodiments are illustrated in Figures 9A and 9B.

While the invention has been described in connection with preferred embodiments, it should be understood readily that the present invention is not limited to the disclosed embodiment. Rather, the present invention is intended to cover various equivalent arrangements and is only limited by the claims which follow. One of skill in the art, having regard for this disclosure, can now readily envision many variations without departing from the scope of the claims which follow.

The entire disclosures of all patents and publications, cited above, are hereby  
incorporated by reference.

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